

WHAT IS CLAIMED IS:

1. A semiconductor device, comprising
 - a bottom lead frame having at least one tilt flap;
 - a die attached on the bottom lead frame;
 - a top conductive element attached on the die; and
 - a molding compound for molding the semiconductor device, wherein the molding compound surrounds the at least one tilt flap to lock the molding compound onto said bottom lead frame.
2. The semiconductor device of Claim 1, wherein the bottom lead frame has a first edge and a second edge, the first edge opposite the second edge, and the second edge of the bottom lead frame having a reduced portion extending outward from the die-attached portion of the bottom lead frame, wherein the reduced portion has a portion of the bottom lead frame removed from each of opposite sides thereof.
3. The semiconductor device of Claim 2, wherein the at least one tilt flap is provided at the first edge and extends outward from the bottom lead frame.
4. The semiconductor device of Claim 2, wherein the second edge of the bottom lead frame further comprises at least one tilt flap extending inward towards the bottom lead frame.
5. The semiconductor device of Claim 3, wherein the second edge of the bottom lead frame further comprises at least one tilt flap extending inward towards the bottom lead frame.
6. The semiconductor device of Claim 1, wherein the semiconductor device is a rectifier of surface mount package.

7. The semiconductor device of Claim 1, wherein the thickness of the bottom lead frame is less than 10 mils.
8. The semiconductor device of Claim 4, wherein the second edge includes two tilt flaps extending inwards towards the bottom lead frame.
9. The semiconductor device of Claim 5, wherein the second edge includes two tilt flaps extending inwards towards the bottom lead frame.
10. A lead frame for a semiconductor device, comprising
 - a die-attached portion having a first edge and an opposite second edge,
 - the first edge having at least one tilt flap, and
 - the second edge having a reduced portion extending outward from the die-attached portion.
11. The lead frame of Claim 10, wherein the at least one tilt flap extends outward from the die-attached portion.
12. The lead frame of Claim 10, wherein the second edge of the die-attached portion further comprises at least one tilt flap extending inward to the die-attached portion.
13. The lead frame of Claim 11, wherein the second edge of the die-attached portion further comprises at least one tilt flap extending inward to the die-attached portion.
14. The lead frame of Claim 12, wherein two tilt flaps extend inwards towards the die-attached portion.
15. The lead frame of Claim 13, wherein two tilt flaps extend inward towards the die-attached portion.

16. The lead frame of Claim 14, wherein each of the two tilt flaps extend upwards from the reduced portion

17. The lead frame of Claim 15, wherein each of the two tilt flaps extend upwards from the reduced portion

18. The lead frame of Claim 10, wherein the thickness of the lead frame is less than 10 mils.